Plant Physiology
BI1281, 20152.2021

7.5 Hp
Pace of study = 100%
Education cycle = Basic

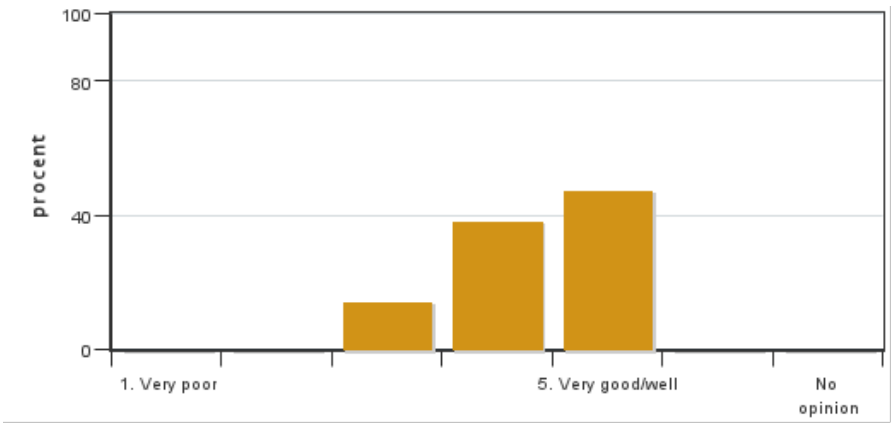
Evaluation report

Evaluation period: 2020-11-25 - 2020-12-16

Answers	21
Number of students	34
Answer frequency	61 %

Mandatory standard questions

1. My overall impression of the course is:

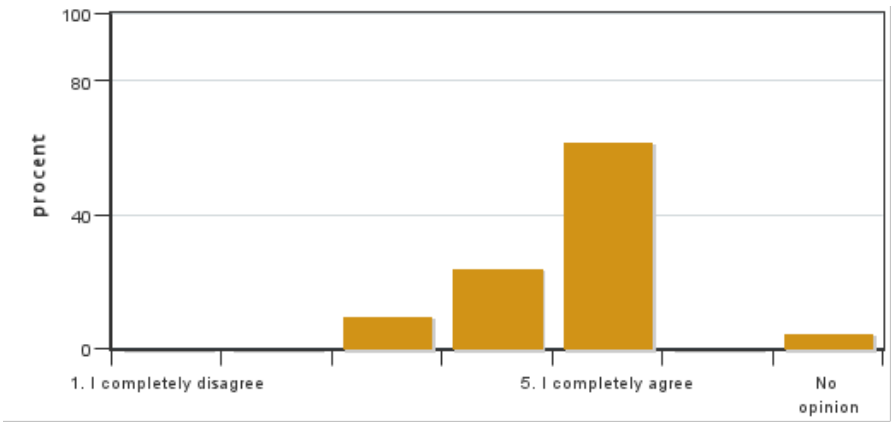


Answers: 21
Medel: 4,3
Median: 4

1: 0
2: 0
3: 3
4: 8
5: 10

No opinion: 0

2. I found the course content to have clear links to the learning objectives of the course.

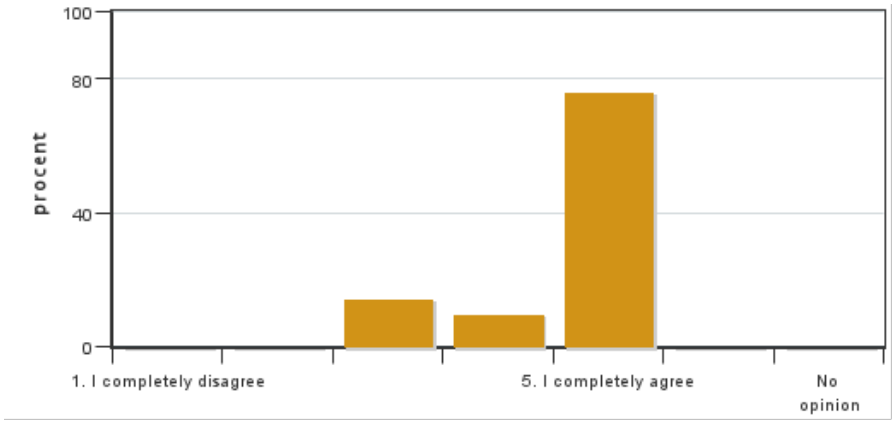


Answers: 21
Medel: 4,6
Median: 5

1: 0
2: 0
3: 2
4: 5
5: 13

No opinion: 1

3. My prior knowledge was sufficient for me to benefit from the course.

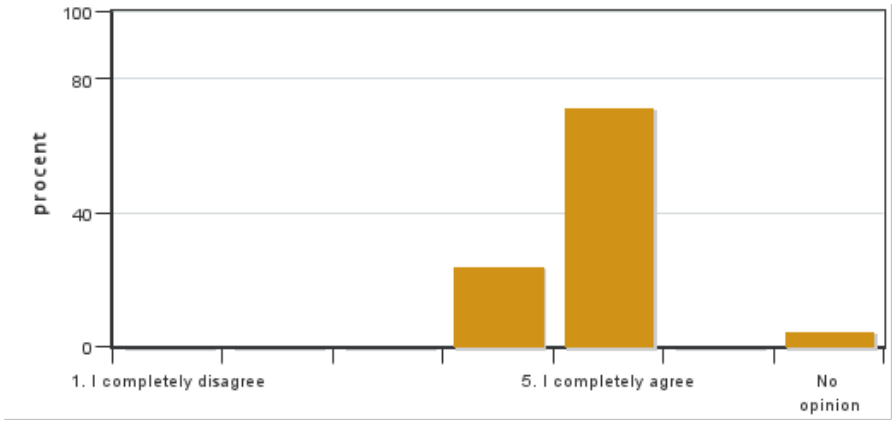


Answers: 21
Medel: 4,6
Median: 5

1: 0
2: 0
3: 3
4: 2
5: 16

No opinion: 0

4. The information about the course was easily accessible.

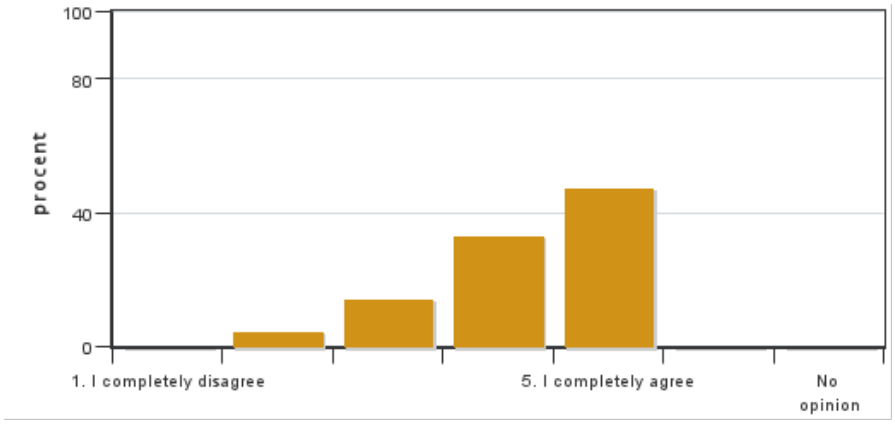


Answers: 21
Medel: 4,8
Median: 5

1: 0
2: 0
3: 0
4: 5
5: 15

No opinion: 1

5. The various course components (lectures, course literature, exercises etc.) have supported my learning.

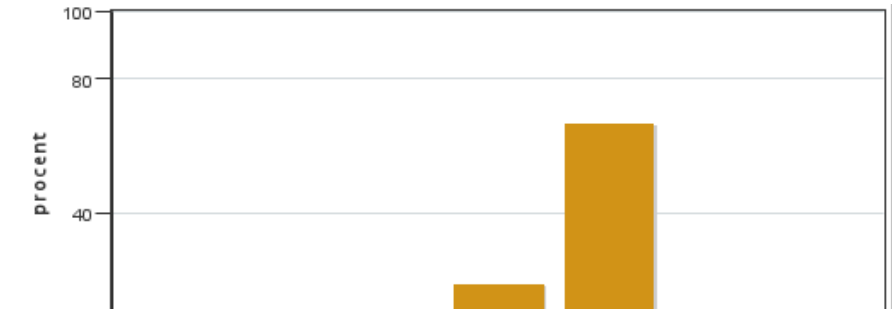


Answers: 21
Medel: 4,2
Median: 4

1: 0
2: 1
3: 3
4: 7
5: 10

No opinion: 0

6. The social learning environment has been inclusive, respecting differences of opinion.

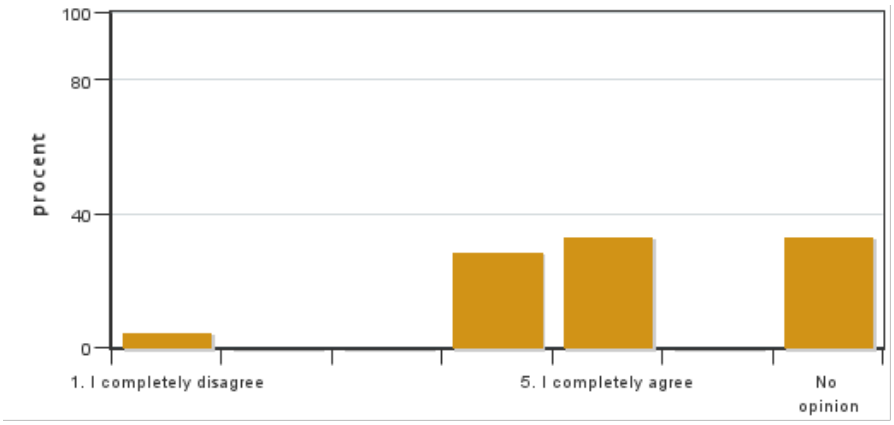


Answers: 21
Medel: 4,7
Median: 5

1: 0
2: 0
3: 1
4: 4
5: 14

No opinion: 2

7. The physical learning environment (facilities, equipment etc.) has been satisfactory.

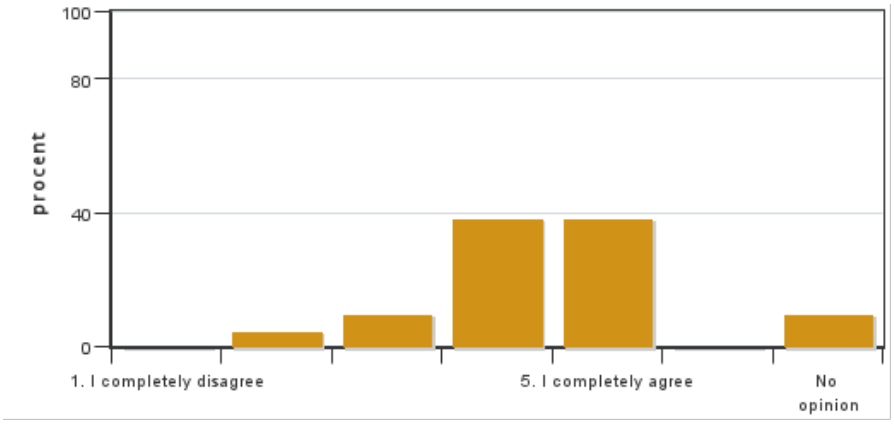


Answers: 21
Medel: 4,3
Median: 4

1: 1
2: 0
3: 0
4: 6
5: 7

No opinion: 7

8. The examination(s) provided opportunity to demonstrate what I had learnt during the course (see the learning objectives).

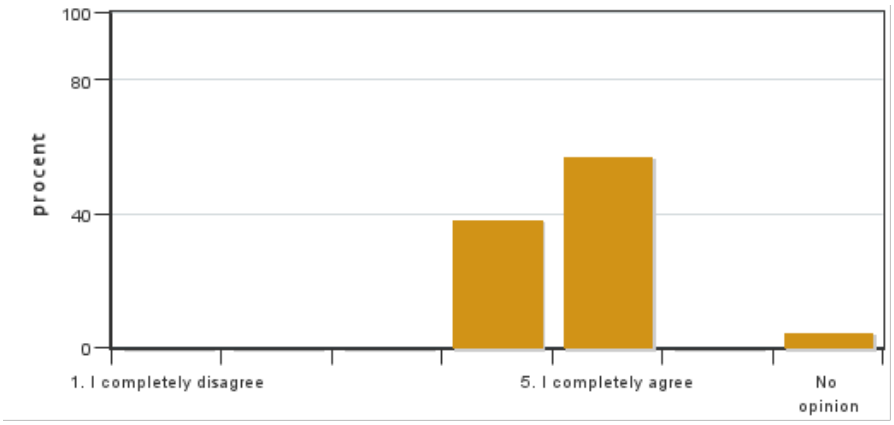


Answers: 21
Medel: 4,2
Median: 4

1: 0
2: 1
3: 2
4: 8
5: 8

No opinion: 2

9. The course covered the sustainable development aspect (environmental, social and/or financial sustainability).

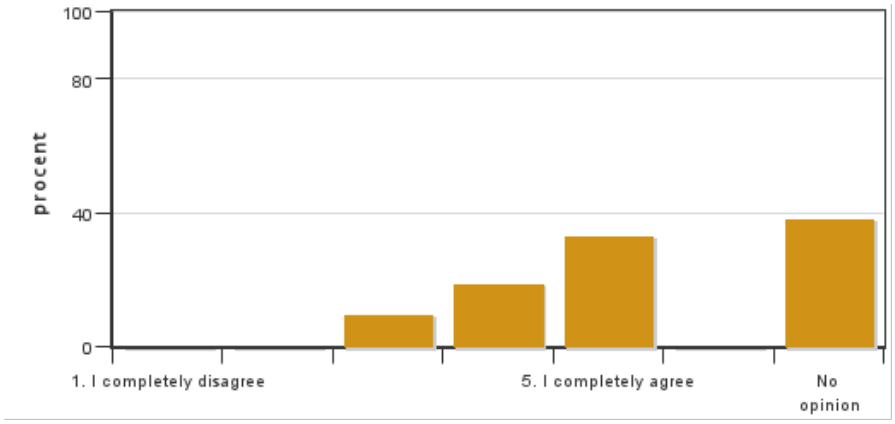


Answers: 21
Medel: 4,6
Median: 5

1: 0
2: 0
3: 0
4: 8
5: 12

No opinion: 1

10. I believe the course has included a gender and equality aspect, regarding content as well as teaching practices (e.g. perspective on the subject, reading list, allocation of speaking time and the use of master suppression techniques).

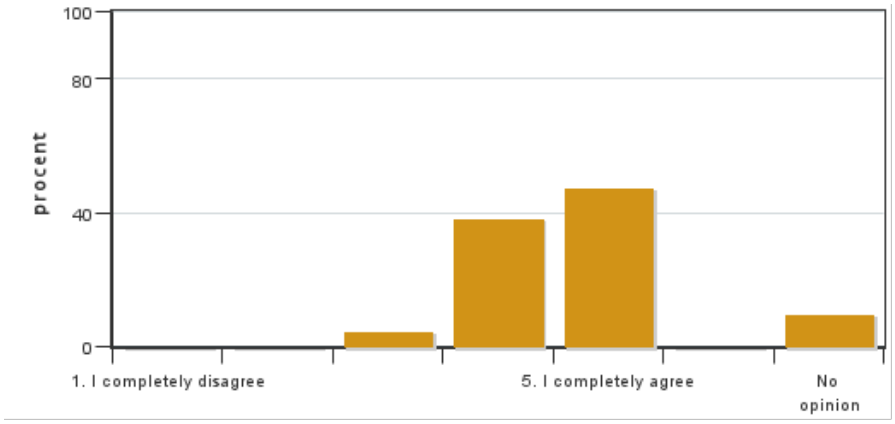


Answers: 21
Medel: 4,4
Median: 5

1: 0
2: 0
3: 2
4: 4
5: 7

No opinion: 8

11. The course covered international perspectives.

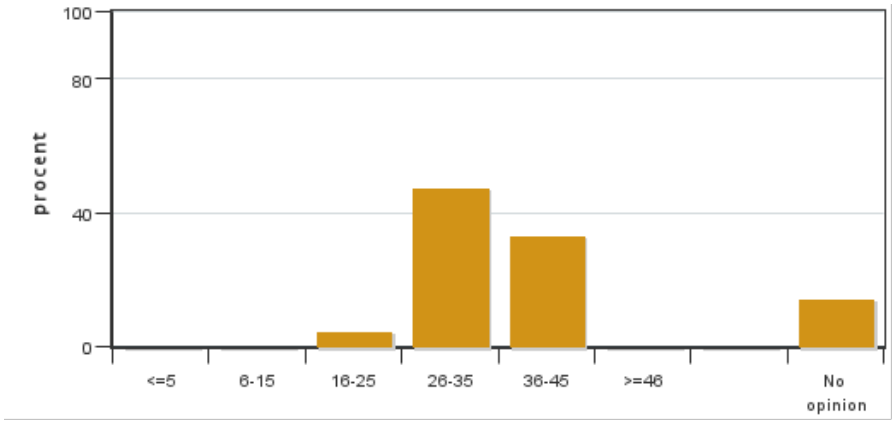


Answers: 21
Medel: 4,5
Median: 5

1: 0
2: 0
3: 1
4: 8
5: 10

No opinion: 2

12. On average, I have spent … hours/week on the course (including timetabled hours).

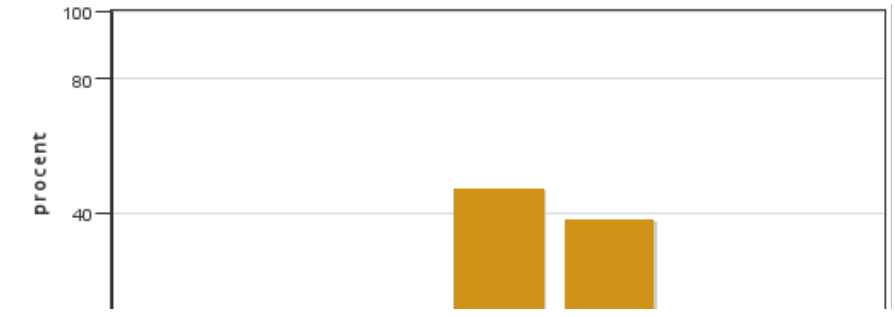


Answers: 21
Medel: 33,3
Median: 26-35

≤5: 0
6-15: 0
16-25: 1
26-35: 10
36-45: 7
≥46: 0

No opinion: 3

13. If relevant, what is your overall experience of participating in all or part of your course online?



Answers: 21
Medel: 4,3
Median: 4

1: 0
2: 1
3: 1
4: 10
5: 8

No opinion: 1

14. If relevant, please share what worked well when participating in teaching on distance

15. If relevant, please share what worked less well when participating in teaching on distance

Course leaders comments

Background

The BI1281 course is a second-year introductory course to plant physiology. 35 students registered for the course in 2020 of which approximately half come from the five-year agronomy program (Food Sciences) and the other half from the three-year biology and environment program. The course lasts 5 weeks and evaluation involves two lab reports and one final exam.

This is the second year I am main course leader for this course. Last year, there was a low response rates from students (41%; 14/34). This year, a strong effort was made by myself and the student representative to improve student response rates. We achieved a response rate of 60% (21/35) which was much better.

The obvious major challenge this year was covid-19. This required major reorganization of the course including online lectures, online discussions, a reduced number of labs, more preparations by lab teachers, and additional preparations for in-person exams. However, from the feedback given it appears students were happy with the course (4.3 / 5 score) and the distance education aspects of it (4.3 / 5 score).

Changes in course content and structure compared to last year

The covid-19 situation was a major factor in changes to the course this year. It was decided in June that, if permitted by SLU and national guidelines, the lectures would be online and the labs remain in person to maintain a high standard of teaching while keeping students safe. Feedback was also taken onboard from the 2019 course to improve and update aspects, particularly related to exam preparations since the exam section received low scores in 2019. A summary of changes made for the 2020 course:

- 12 lectures took place via zoom instead of in person
- 2.5 lectures were revised with new teachers compared to last year. A new female teacher was brought on board
- Lab time was reduced by half and students were divided into three groups to reduce the number of students per room. Students did fewer preparations and instead these were done by teachers
- More time was provided to study for the final exam. Both by moving lectures earlier; and by having the deadline for the lab report earlier
- A discussion and group work session was included at the end of the course to go over previous exams
- The canvas page was reorganized to make it clearer and easier to navigate

Question (s) with clearly higher marks in this year's evaluation compared to last year

Question 8. "The *examination (s) gave me the opportunity to show what I learned during the course, see learning objectives*".

Q8 was scored at 4.2 this year (2020) compared to 3.6 last year (2019). Students were not happy about the 2019 exam so several changes were made in 2020 to improve student preparation. A discussion session was included in 2020 to go over old exams. The lab report deadline was moved earlier to give 9 days to study before the exam (compared to 6 days in 2019). I think these modifications helped with student preparation and improve the score on this section.

Question 12. " *I believe that the course has touched on a gender and equality perspective in content and practice* "

Q12 was scored 4.4 this year (2020) compared to 3.9 last year (2019). The course still has gender balance issues but this year an additional female lecturer was brought on board to help the balance. This was indicated to the students which may be the reason for the improved score.

Question (s) with clearly lower marks in this year's evaluation compared to last year

There were no categories in the 2020 evaluation that had scores lower than 0.1 or 0.2 points compared to 2019.

Course leader's comments

The course this year presented some serious challenges with re-organization due to covid (ie labs; exams; online lectures) and also to maintain good student interactions and a positive learning environment. Despite the challenges, the course was given a rating of 4.3 / 5 in 2020 compared to 4.4 / 5 for 2018 and 2019 which I think is quite good. Students were very positive about the in-person labs and also positive about the distance learning aspects (4.3 / 5 score for distance learning question 13). Overall, I was happy with the course and felt the students had a good learning environment. I was also pleased to see students do well on the exam and that so many passed. This was an improvement from 2019 when marks were lower and pass rates lower.

Suggestions for changes in the next course, based on this year's course evaluations:

The questionnaire in 2020 was modified to include 14 additional questions. Students gave a lot of feedback that was extremely useful for both the organizer but also individual teachers. Changes I plan to make for 2021 based on these recommendations:

- Move lectures back to inperson.
- Increase the number of discussion sessions
- Consider changing the course textbook to Plant Physiology and Development (6th edition) since students found Campbell's biology too simple with insufficient detail
- Clarify labs are different course credits with a pass / fail grade
- Move the question time closer to the exam
- Give more plant anatomy information in the beginning of the course
- Modify lectures to include discussion questions at the end and avoid teacher overlaps and repetition

Charles Melnyk, course leader

Uppsala, 11 Jan 2021

Student representatives comments

Kursen utfördes på distans på grund av smittspridningen av Covid-19 och kan därför eventuellt inte jämföras med tidigare års kurser som genomförts på plats på campus. Studenterna gav dock kursen ett generellt sett högt helhetsbetyg (4,3 av 5) och svarsfrekvensen låg på 60%. I snitt lade studenterna ca 35 timmar per vecka på kursen.

Majoriteten tyckte att distansundervisningen sköttes bra över zoom och laborationerna som utfördes på plats i kurslabben var mycket uppskattade av så gott som alla. Tidsåtgången för laborationer och påföljande rapportskrivning var väl beräknad enligt de flesta. Det fanns en tydlig koppling till lärandemålen och de flesta hade tillräckligt med förkunskaper för att tillgodogöra sig kursens innehåll. Önskemål fanns dock om en tydligare introduktion till växtens anatomi som ett första moment på kursen.

Mycket uppskattad var även struktureringen av kursens Canvas-sida som i och med distansundervisningen användes flitigt. Lättillgängligheten var till stor hjälp för att det digitala arbetet skulle kunna flyta på smidigt. Likaså fick kursansvarige Charles Melnyk många lovord för sitt engagemang och intresse i studenterna och deras inlärningsprocess. Studenterna tyckte att det var tydligt att han ansträngde sig för att de skulle få så bra förutsättningar som möjligt att lyckas.

Den sociala lärandemiljön var efter förutsättningarna god och de flesta var nöjda med de olika lärandemomenten. En del studenter upplevde dock att vissa föreläsningar och moment överlappade och upprepades, vilket gav ett rörigt intryck och oklarhet om vad som stämde. Kursboken *Biology: A Global Approach* beskrevs av flera studenter som bristfällig inom en del områden som berördes av kursen, till exempel växthormoner och deras funktioner. Just de områdena hade behövt vara tydligare och mer detaljerade under föreläsningarna, för att komplettera boken.

Examinationen bestod i labbrapportsinlämningar (betyg G/icke G) och en tentamen (betyg U, 3, 4, 5) i slutet av kursen. Tentamensfrågor översatta till både engelska och svenska efterfrågades för att undvika eventuella språkliga missförstånd, men annars fick examinationen ett generellt sett gott betyg.

Internationella perspektiv berördes men utgjorde ingen större del av kursen. Hållbar utveckling kunde ha inkluderat mer ekologiska aspekter för ett bredare perspektiv, men fanns med i kursinnehållet tyckte studenterna.

Kursens föreläsare och laborationsassistenter kom från flera olika länder och undervisningen bedrevs därför på både svenska och engelska i ungefär lika stora delar. Manliga föreläsare stod i klar majoritet men detta uppmärksammades av kursledaren själv som ett område för förbättring.

Laborationerna skulle kunna förbättras genom mera handledning och stöd inför den andra laborationen, samt en tydlig gemensam genomgång på slutet med förväntade vs. uppnådda resultat.

Angående föreläsarna själva så fick kursledaren Charles högst betyg på sina föreläsningar, tillsammans med

Stefanie Rosa som föreläste om fotosyntes. Genomgående förbättringsförslag från studenterna handlade mycket om att de PowerPoints som användes bör utformas så att de är lätta att använda för senare repetition. Vissa behövde göras mer detaljerade medan vissa hade vunnit på färre detaljer för en lättare förståelse. Ytterligare någon hade behövt tydligare struktur. Mest förbättringspotential fanns det i Adrien Sicards första föreläsning, som innehöll väldigt mycket muntligt framförd information som presenterades i snabb takt och inte återfanns i PowerPointen. Önskemål för kommande föreläsningar handlade om PowerPoints med mer skriftlig information och med en struktur som gör det lättare att förstå vad som är ”överkurs” och inte.

Som förbättring inför kommande år önskar studenterna se mindre överlappning mellan föreläsningar, för att spara tid och undvika förvirring. Även önskemål om en mer ekologisk synvinkel återkom, till exempel angående växters samspel och levnadsstrategier. Det som efterfrågades mest under hela kursen var instuderingsfrågor, vilket många studenter upplevde skulle ha underlättat inlärningen. Genomgående verkar dock studenterna nöjda och tyckte kursen var lärorik och intressant.